

Amendment Dated April 30, 2007
Serial No. 10/769,209

IN THE CLAIMS

Claims 1-13. (Canceled)

Claim 14. (New) A computer readable medium containing instructions for controlling at least one processor to perform a method of defining an optical broadband service in an optical communication network, the optical broadband service being a circuit-based service that allows bandwidth on the optical communication network to be reserved and dedicated to a customer, the method comprising the steps of:

selecting at least one service component to be included in the optical broadband service, the service component being capable of carrying one or more service channels; and

defining a service channel to be carried by the service component, the service channel definition including at least a service type attribute for the service channel, a service channel interface attribute for the service channel, a service channel bandwidth attribute for the service channel, and a service channel transport system attribute for the service channel.

Claim 15. (New) The computer readable medium of claim 14, wherein the service type attribute of the service channel indicates whether the service component is a local channel, an InterOffice Facility channel, or a long haul channel.

Claim 16. (New) The computer readable medium of claim 15, wherein the step of selecting at least one service component comprises selecting multiple service components, each of which forms a segment of a path through the network that will carry the optical broadband service.

Claim 17. (New) The computer readable medium of claim 16, wherein each segment has its own service type attribute.

Claim 18. (New) The computer readable medium of claim 14, wherein the service component is a local channel, the local channel being a point-to-point broadband channel between a customer location and a service provider's wire center or central office.

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Claim 19. (New) The computer readable medium of claim 14, wherein the service component is an InterOffice Facility (IOF) channel, the IOF channel providing a point-to-point broadband channel between two wire centers within a metro area.

Claim 20. (New) The computer readable medium of claim 19, wherein the IOF channel has ends comprising optical system handoff points.

Claim 21. (New) The computer readable medium of claim 14, wherein the service component is a long haul channel comprising one or more links that collectively define a channel between two metropolitan areas.

Claim 22. (New) The computer readable medium of claim 14, wherein each service component is capable of carrying multiple service channels, and wherein not all of the service channels carried by a particular service component are required to be associated with the same service offering.

Claim 23. (New) The computer readable medium of claim 14, wherein the service channel interface attribute for the service channel specifies a protocol and a line rate of the service channel on the service component.

Claim 24. (New) The computer readable medium of claim 23, wherein the service channel interface attribute comprises an indication as to whether the service channel has symmetrical or asymmetrical interfaces.

Claim 25. (New) The computer readable medium of claim 23, wherein the service channel bandwidth attribute for the service channel specifies an actual throughput of the service channel, the service channel bandwidth being equal to or less than the line rate of the channel interface attribute.

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Claim 26. (New) The computer readable medium of claim 14, wherein the service channel transport system attribute for the service channel specifies an actual network implementation of a link on the optical communication network forming the service component.

Claim 27. (New) The computer readable medium of claim 14, wherein the service channel definition includes a channel protection attribute.

Claim 28. (New) The computer readable medium of claim 27, wherein the channel protection attribute for the service attribute specifies at least one of protection class, protection scope, multi-homing vs. single homing, route diversity, and building entrance diversity.

Claim 29. (New) The computer readable medium of claim 14, wherein the service channel includes service demarcation points, and wherein the service definition further includes a channel reach attribute for the service channel, the channel reach attribute specifying how far apart two of the service demarcation points may be placed.

Claim 30. (New) The computer readable medium of claim 14, wherein the service components are actual links on the optical communication network that are to be assigned to the optical broadband service, the link being selectable from a network topology database.

Claim 31. (New) A network operating center, comprising:

- at least one processor;

- a computer readable medium containing instructions for controlling the at least one processor to perform a method of defining an optical broadband service in an optical communication network, the optical broadband service being a circuit-based service that allows bandwidth on the optical communication network to be reserved and dedicated to a customer, the method comprising the steps of:

- accessing a network topology database containing information on optical links in the optical communication network;

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selecting at least one service component to be included in the optical broadband service, the service component being one of the optical links in the optical communication network that is capable of carrying one or more service channels;

defining a service channel to be carried by the service component, the service channel definition including at least a service type attribute for the service channel, a service channel interface attribute for the service channel, a service channel bandwidth attribute for the service channel, and a service channel transport system attribute for the service channel; and

messaging the defined optical broadband service to at least one network element forming part of the optical communication network and associated with the at least one service component to reserve network resources defined by the optical broadband service for the customer.